

What is Claimed Is:

1. An orifice introducer device comprising:  
a tubular member having a distal end and a proximal end;  
the distal end being adjustable between a first position for insertion into an  
5 orifice and a second position once inserted into the orifice.
2. The orifice introducer device of claim 1, wherein, in the first position, the  
distal end has a smaller diameter than the proximal end.
- 10 3. The orifice introducer device of claim 2, wherein the diameter of the distal  
end is greater in the second position relative to the first position.
4. The orifice introducer device of claim 3, wherein at least a portion of the  
distal end is stretchable, and wherein the diameter of the distal end is adjusted to  
15 the second position relative to the first position by stretching.
5. The orifice introducer device of claim 3, wherein the distal end includes a  
slit, and wherein the diameter of the distal end is adjusted to the second position  
relative to the first position by opening of the slit.  
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6. The orifice introducer device of claim 5, wherein the distal end includes a  
plurality of holes adjacent to the slit and a string through the holes, and wherein the  
opening of the slit is controlled by moving the string.
- 25 7. The orifice introducer device of claim 6, wherein the string is attached to an  
actuation device for controlling a movement of the string.
8. The orifice introducer device of claim 6, wherein one end of the string is  
attached to an actuation device.  
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9. The orifice introducer device of claim 6, wherein both ends of the string are

attached to an actuation device.

10. The orifice introducer device of claim 7, wherein the actuation device includes a ring.

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11. An orifice introducer device comprising:

a tubular member having a distal end;

a distal portion having a proximal end configured to be detachably secured to the distal end of the tubular member, the distal portion being selectively detachable when the orifice introducer device is positioned in the orifice.

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12. The orifice introducer device of claim 11, wherein, when secured to the distal end of the tubular member, a distal end of the distal portion has a smaller diameter than the tubular member.

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13. The orifice introducer device of claim 12, wherein, when detached from the distal end of the tubular member, the proximal end of the distal portion contracts so as to have a smaller diameter than the tubular member.

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14. The orifice introducer device of claim 13, wherein the proximal end of the distal portion includes an annular groove configured to detachably secure the distal end of the tubular member.

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15. The orifice introducer device of claim 11, further comprising a tubular insertion device configured to be insertable through the tubular member.

16. The orifice introducer device of claim 15, wherein the tubular insertion device is configured to detach the distal portion from the tubular member when inserted through the tubular member.

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17. The orifice introducer device of claim 16, further comprising a recovery

device for withdrawing the distal portion through the tubular member when the distal portion has been detached from the tubular member.

5        18. The orifice introducer device of claim 17, wherein the recovery device is a string attached to an inner wall of the distal portion.

10        19. The orifice introducer device of claim 16, wherein, when detached from the distal end of the tubular member, the proximal end of the distal portion contracts so as to have a smaller diameter than the tubular insertion device so as to be withdrawn through the tubular insertion device.

20. The orifice introducer device of claim 11, wherein the orifice introducer device is configured to introduce a surgical device into an orifice.

15        21. A method for using an orifice introducer device comprising the steps of:  
providing a tubular member having a distal end and a proximal end, the distal end being in a first position in which the distal end has a smaller diameter than the proximal end;  
inserting the distal end into an orifice; and  
20        adjusting the distal end into a second position.

22. The method of claim 21, further comprising the step of inserting an element through the tubular member.

25        23. The method of claim 22, wherein the inserting step includes inserting a surgical device through the tubular member.

30        24. The method of claim 21, wherein the adjusting step includes adjusting the diameter of the distal end so as to be greater in the second position relative to the first position.

25. The method of claim 21, wherein the adjusting step includes stretching at least a portion of the distal end.

5 26. The method of claim 21, wherein the adjusting step includes opening a slit in the distal end.

27. The method of claim 26, wherein the opening of the slit includes the step of moving, via an actuation device, a string attached to the slit.

10 28. A method for using an orifice introducer device comprising the steps of:  
providing a tubular member having a distal end;  
detachably securing a proximal end of a distal portion to the distal end of the  
tubular member, a distal end of the distal portion having a smaller diameter than the  
tubular member;  
15 inserting the distal end into an orifice; and  
selectively detaching the distal portion from the tubular member.

29. The method of claim 28, further comprising the step of the distal portion  
contracting so as to have a diameter smaller than a diameter of the tubular member.  
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30. The method of claim 29, further comprising the step of withdrawing the  
distal portion through the tubular member.

25 31. The method of claim 30, further comprising the step of inserting an  
element through the tubular member.

32. The method of claim 31, wherein the inserting step includes inserting a  
surgical device through the tubular member.

30 33. The method of claim 28, wherein the selective detaching step includes  
inserting a tubular insertion device through the tubular member for contacting an

inner wall of the distal portion.

34. An orifice introducer, comprising:

5 a tubular sheath having a proximal end and a distal end, a diameter of the distal end of the sheath being expandable from a first diameter to a second diameter to allow passage of a surgical instrument having a diameter that is larger than the first diameter.

10 35. The orifice introducer of claim 34, wherein the distal end of the sheath is conically shaped at least when the diameter of the sheath is the first diameter.

36. The orifice introducer of claim 34, wherein the distal end of the sheath is tapered at least when the diameter of the sheath is the first diameter.

15 37. The orifice introducer of claim 34, wherein the distal end of the sheath includes at least one of a slit, a seam, a perforation and a weakened area, which allows the expansion of the distal end.

20 38. The orifice introducer of claim 34, wherein the distal end of the sheath is formed of a stretchable material so that the distal end of the sheath stretches to expand from the first diameter to the second diameter.